

are known from Brazil only; *colliguayæ* (Philippi) from Chile. The North American species are: *columbianus* (Ashmead) [Florida, District of Columbia, New Jersey]; and *aneoviridis* Girault (Illinois). Of the six species of the genus, four are South American and two North American, and the genus as a whole is distributed between the meridians of  $40.6^{\circ}$  and  $89.2^{\circ}$  west longitude, and between the parallels of about  $40^{\circ}$  south and  $42^{\circ}$  north latitude.

(To be continued.)

### NEW SPECIES AND GENERA OF NORTH AMERICAN LEPIDOPTERA.

BY WM. BARNES, M.D., AND J. H. MCDUNNOUGH, PH.D., DECATUR, ILL.

(Continued from page 22.)

#### *Leucania suavis*, sp. nov.

Head and thorax clothed with olivaceous hair; primaries straw-coloured, slightly sprinkled with black atoms, especially along inner margin; a dark shade extends from base of wing above cubital vein and along vein 5 to outer margin; veins in outer portion of wing finely lined on both sides with dusky; an indistinct oblique row of black dots across the wing beyond the cell, not attaining costa; a faint row of black marginal dots, mostly incomplete; fringes whitish. Secondaries deep smoky in ♂, fringes pale, cut by a dark line; in ♀ smoky, but much lighter than in ♂, an incomplete row of terminal dots and pale fringes without dark line. Beneath primaries smoky, outer margin and a ray extending outwards from discocellular vein pale straw-colour; secondaries pale, slightly suffused with smoky; a small discocellular spot and incomplete row of terminal dots on each wing. Expanse, 31 mm.

Habitat: White Mts., Ariz., 1 ♂, 6 ♀s. Type, collection Barnes.

Our single ♂ specimen shows a black dot at the inception of vein 2 of primaries, and another below it on anal vein; these are lacking in the ♀s. The species may easily be separated from all other N. Am. species of the genus *Leucania*, as defined by Hampson, by the fact that there are no black lines in the interspaces of the veins in the terminal area.

#### *Trachea cara*, sp. nov.

Palpi blackish outwardly; head and thorax clothed with an admixture of reddish-ochreous and black scales; an indistinct black transverse line on tegulæ and a rather more distinct black line before upper margin

of patagia. Primaries purplish-red, suffused with ochreous; a black basal dash extending to t. a. line; basal line only indicated by a slight dark mark on costa, surrounded by diffuse ochreous shading; t. a. line indistinct in costal half of wing, indicated by two spots on costa, below basal dash distinct, geminate, black, filled with ochreous, and bent inwards to inner margin near base; beyond t. a. line considerable ochreous shading, especially along inner margin; orbicular round or slightly oval, outlined partially in black, with ochreous annulus and smoky central portion; claviform a slight black arrow mark below orbicular, not extending back to t. a. line and preceded by ochreous shading; reniform large, constricted centrally, the lower portion considerably broader than the upper, outlined in black, with dark centre; a slight dark median shade angled at reniform; t. p. line indistinct in costal portion, geminate, black, the inner line most distinct, filled with ochreous, outcurved around reniform, almost touching same at base, from which point it is evenly oblique and slightly lunate to inner margin; space between it and reniform shaded with ochreous; several pale dots beyond on costa; subterminal space even purplish-red, with little ochreous shading; s. t. line pale, wavy, crossed by two black sharply defined lines above and below vein 5, reaching from outer margin almost to t. p. line; terminal space with less reddish than remainder of wing, crossed by black line below vein 7, and with faint black mark on vein 2, neither of these crossing subterminal line; a terminal series of small black lunules; fringes dusky, streaked with ochreous opposite veins; secondaries smoky, with an incomplete dark terminal line; fringes smoky, with slight pinkish tinge, cut indistinctly by a darker line. Beneath smoky, with slight pinkish tinge, traces of a medial line on primaries mostly confined to costal area, distinct medial line and discal dot on secondaries. Expanse, 32 mm.

Habitat: Eureka, Ut.; Provo, Ut., 2 ♂s, 1 ♀. Type, collection Barnes.

Very similar in maculation to *T. adnixa* Grt., but lacking the blackish mark in subterminal area below vein 2, which is mentioned by Hampson (Cat. Lep. Het., VII, 187) in his description, and is also present in a coloured drawing of the type in the Tepper collection, which we possess. We have several specimens from Vanc. Is., B. C., which we take to be *adnixa*, and which are generally darker in ground colour, with a more prominent light patch beyond reniform; the black lines on each side of vein 5 are also not so clearly cut in the B. C. specimens, tending to

become suffused with each other, and the s. t. line is more prominent and distinct.

*Hadenella cervoides*, sp. nov.

Palpi outwardly dark brown, scaled with white at base, upturned, third joint short, porrect, antennæ ciliate; front and thorax closely scaled with brown and pale scales; divided scale tuft on metathorax; primaries brown, ordinary lines wanting, two black spots on costa above orbicular and reniform indicating their position, and a faint pale shade-line beyond reniform giving the approximate course of t. p. line; orbicular and reniform small, outlined in white, former round, latter kidney-shaped and open towards costa; faint terminal row of black dots, preceded by much more distinct pale ones, from the inferior one of which a slight black dash extends inwardly; fringes long, dusky, cut by a darker line. Secondaries smoky; fringes whitish, cut by a broad dark shade; beneath smoky brown, secondaries white at base and inner margin. Expanse, 25 mm.

Habitat: Redington, Ariz, 1 ♂. Type, collection Barnes.

The generic reference is doubtful; the front has a small truncate prominence, with raised edges and slight central process, but as the abdomen is devoid of squamation we are unable to tell whether tufts are present or not; in general appearance it fits in very well with *pergentilis*. We thought at first this might be *Fotella notalis* Grt., but as far as can be judged by Grote's rather meagre description, combined with Hampson's remarks, this is a larger species (34 mm.), without orbicular, and with a pale terminal border.

*Perigea orta*, sp. nov.

Palpi ochreous, sides of 2nd joint and 3rd joint dark brown; front ochreous, shaded posteriorly with dark brown; base of tegulæ ochreous, bordered with a dark line; remainder of head and thorax clothed with an admixture of reddish, ochreous and dark brown scales; abdomen yellow-brown, with darker tufting; primaries dark brown, with a distinct reddish tinge; maculation indistinct; basal line represented by two dark streaks on costa, with intermediate space filled with olive; t. a. line geminate, inner line obsolete, filled with olive shading, slightly oblique in course, dentate, a small inward angle below costa, prominent ones in the cell and on vein 1; orbicular small, round, partially outlined in black, filled with olive; claviform, when present, a small blackish blotch resting on t. a. line, and occasionally filled with olive; reniform large, the lower portion filled with a prominent quadrate white patch shaded inferiorly with black,

the upper portion filled with several irregular olive spots and dashes, separated from each other by dusky shades; above reniform on costa a small olive dot; t. p. line indistinct, broken, represented by a series of olive spots, shaded inwardly more or less distinctly with black sagittate marks, and followed by a row of minute white dots on the veins; in course parallel to outer margin, slightly incurved in submedian fold; s. t. line usually very indistinct, marked by the difference in shade between the dark subterminal and the ochreous shaded terminal spaces, irregular, incurved opposite cell, dentate on veins 2-4, occasionally preceded by black sagittate marks, most prominent in costal half; terminal area usually but slightly lighter than subterminal portion; at times rather heavily streaked with ochreous; a dark terminal line, broken by yellow points opposite the veins; fringes dark, rayed with ochreous or olive opposite the veins. Secondaries entirely smoky, with broken dark terminal line. Beneath primaries smoky, costa and outer margin ochreous, shaded with pinkish; secondaries whitish, sprinkled with smoky; a more or less evident discal spot and postmedian line on both wings. Expanse, ♂ 23 mm.; ♀ 28.5 mm.

Habitat: Gila Co., Ariz. (2 ♂s, 5 ♀s); Redington, Ariz. (1 ♂, 2 ♀s); Santa Catalina Mts., Ariz. (1 ♀). Types, collection Barnes.

The species bears considerable resemblance to *vecors* Gn., is, however, much smaller, lighter in appearance, and differs in the marking of the reniform, as well as in other minor details; it shows considerable variation as regards the distinctness of the subterminal line and the shading in terminal space. It is possibly Mexican, but we can find nothing in Hampson's work that agrees with it.

*Oligia (Hadena) tonsa* ab. *fasciata*, ab. nov.

Maculation as in *tonsa* Grt., or *subjuncta* Sm.; the ground colour of the wings, however, is white, streaked slightly with blackish; a broad red-brown band stretches across the median area of wing, bordered inwardly by the t. a. line, outwardly in the upper portion by the inner margin of the reniform, in the lower portion by the curved t. p. line; in the basal area of wing, near inner margin, two short black streaks, and a black dash across the median band as in *tonsa*; orbicular and reniform white, former very prominent against the dark surrounding area, latter with a slight yellowish outer shading between it and t. p. line. Secondaries deep smoky. Expanse, 22 mm.

Habitat: Eureka, Ut., 1 ♂. Type collection, Barnes.

This very striking form we received, along with a number of ordinary *tonsa*, from Mr. T. Spalding. As it agrees exactly in the course of the lines and general maculation with these specimens, we prefer to regard it for the present as an aberration, although it may prove to be a good species.

*Athetis (Caradrina) mona*, sp. nov.

Palpi outwardly black, 3rd joint pale ochreous; head and thorax gray, latter slightly paler; primaries very even dark gray-brown, with a sprinkling of black scales; t. a. line fine, black, slightly broken, originating from a black spot on costa; wavy and somewhat outwardly inclined; orbicular a small dark spot; reniform large, concave towards apex of wing, the concavity outlined in yellow, basal half outlined with white dots, 4-5 in number, central portion very slightly darker than rest of wing; on costa above reniform a dark spot; a faint dark median shade; t. p. line faint, crenulate, evenly sinuate; s. t. line barely visible, pale ochreous, irregular; terminal area slightly darker than remainder of wing; indistinct dark broken terminal line bordered outwardly with paler. Secondaries white, with broad outward dusky suffusion and dark terminal line, fringes pale, cut by a dark line near base. Beneath primaries wholly smoky, with faint discal dot and traces of postmedian line; secondaries white, sprinkled with brown along costa and outer margin, with distinct discal dot. Expanse, 22 mm.

Habitat: Witch Creek, San Diego Co., Calif., 1 ♀. Type, collection Barnes.

A species resembling certain forms of the European *selini* rather than any American species known to us; *multifera* Wlk. is probably its closest ally.

*Papaipema errans*, sp. nov.

Head and thorax purplish-brown. sprinkled slightly with white; tegulae tipped with white; primaries purple-brown, sprinkled with white and suffused with golden-yellow, which is particularly prominent along inner margin to t. p. line and in terminal space; all maculation dull and indistinct; t. a. line only distinguishable as a fine dark line crossing the yellowish area near inner margin; above this two oval dark shades represent claviform and orbicular; a dark median shade with prominent outward angle on cubital vein, inwardly oblique from below reniform to near t. a. line; t. p. line fine, rigid, inclined slightly outward from reniform to inner margin, separating gradually from median shade, and approaching



subterminal line; beyond it on costa several pale dots; reniform an obscure, dark, figure-of-eight shade; subterminal area lighter and more evenly purplish than remainder of wing; s. t. line marked by difference of shade between subterminal and terminal areas, shaded inwardly with smoky brown; terminal area with golden tinge; fringes dark. Secondaries smoky, paler basally, with obscure discal mark; beneath smoky, with discal dots and obscure postmedian lines on both wings. Expanse, 26 mm.

Habitat: White Mts., Ariz., 1 ♂. Type, collection Barnes.

Related to *unimoda* Sm., but the t. p. line is not lunulate, and is distinctly bent outward towards inner margin.

Too late to avoid publication we learn that in the foregoing article on "New Species and Genera of Lepidoptera" we have in two instances created a synonym. Our species *Hudenella cervoides* proves to be *Caradrina fragosa* Grt.; Dr. Barnes has just recently compared the two types. Our new genus and species *Friesia anormalis* is Grote's *Prosoparia perfuscaria*, placed at present in the *Geometridæ*. Mr. J. A. Grossbeck has sent us a specimen compared with the type, remarking at the same time that it is a Noctuid; we are glad to find our opinion supported by such a good authority, and trust that our figures of the structural features may serve to elucidate and augment Grote's very meagre and inadequate description.—J. H. McDUNNOUGH.

## FURTHER NOTES ON DIABROTICA.

### No. III.

BY FRED. C. BOWDITCH, BROOKLINE, MASS.

(Continued from page 16.)

#### *D. quadrinotata*, nov. sp.

Head black; antennæ long, black, joints 9-11 flavous, except extreme tip of last. Thorax wider than long, flavous, shining, finely sparsely punctulate, trifoveate, nearly straight on sides, angles all acute; scutel black; elytra somewhat dilated at rear, thickly finely punctate, light pale flavous, each elytron with two small black spots, a humeral or subhumeral and a submedian. Body beneath black, legs black, femora flavous, under side of thorax flavous. Length, 8 mm.

Two examples, Peru, green label (Marcapata?).

The antennæ are nearly as long as the body (♂), or shorter than the body (♀); joint 3 nearly as long as 4; head with a deep fovea. The